

## ABSTRACT OF THE DISCLOSURE

### SYSTEM AND METHOD FOR PHYSICAL MEMORY ALLOCATION IN ADVANCED OPERATING SYSTEMS

5

A method and system for allocating pre-selected physical memory locations to an application executing on a data processing system. A kernel mode driver and memory allocation subroutines are provided. The memory allocation subroutines, interacting with the programming interfaces of the OS allocates and locks down blocks of memory. The memory allocation subroutines then deallocates the memory blocks based on whether or not the memory blocks fall within the pre-selected range of physical memory locations. The physical memory locations of the blocks locked down are discovered using the driver. The driver takes the virtual address of the specified memory locations and returns with a corresponding physical address. This process involves the use of AWE APIs of the OS, which allows the physical memory to be locked down. The memory allocation subroutines provides functions that allow the program developer to specify the number of physical pages to allocate and a range of physical addresses. The memory allocation subroutines also comprises the algorithm(s), that allocates the physical memory within the selected range.

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20

20